

MRWA WATER SUPPLY STANDARDS

- The following standards provide detailed requirements on the design and construction of City West Water, South East Water and Yarra Valley Water water supply assets.
- The standards encompass drawing, specification and commentary information.
- The standards provide deemed-to-comply solutions, however they will not suit all circumstances or overcome all problems.
- In non standard situations, designers and contractors are encouraged to optimize outcomes through design innovation.

- Authorization from the Water Agency will be required where non-standard solutions are proposed.
- Where Preferences are given, higher order preferences shall be adopted unless there is a compelling reason to do otherwise.
- All numbers are in mm unless otherwise stated.
- All products used in construction shall be listed in the MRWA products portal for the relevant Water Agency and the products shall be used within the stated limitations and conditions of use.

TABLE 000-A: 100 STANDARDS- DESIGN TEMPLATES, COMPONENT INFORMATION AND PIPELINE ARRANGEMENTS

STANDARD NO.	STANDARD NAME	RELEVANCE	TOPIC(S) COVERED	KEY CODE REFERENCES
MRWA-W-100	Water component symbol library	D ✓✓✓ C ✓✓✓	Symbols to be used in detailed component schematic diagrams	1.2.5.3, 9.2
MRWA-W-101	Design template- notes, schedules & locality plan	D ✓✓✓✓	Design notes & schedules to be produced in compliance with this template. Magenta text is provided as an example	1.2.5.3, 9.2
MRWA-W-102A	Design template- example detailed plan	D ✓✓✓✓	Designs to be produced in compliance with this template. The fonts, line weights and colours shown shall be used	1.2.5.3, 9.2
MRWA-W-102B	Design template- example details sheet	D ✓✓✓✓	Design details to be produced in line with the examples shown	1.2.5.3, 9.2
MRWA-W-103	Pipe and joint requirements	D ✓✓✓✓ C ✓✓✓	Acceptable pipe and joint options are nominated. Pipe material and PE jointing preferences provided	4.1, 4.3, 4.4, 4.5, 4.6, 5.2.4, 15.1, 15.21
MRWA-W-104A	Pipeline restraint options & fitting arrangements	D ✓✓✓✓ C ✓✓✓	Design requirements and limitations of rubber ring joint, restrained joint and high shrinkage pipelines described. Requirements of fittings on each are also described.	7.9.5, 15.7
MRWA-W-104B	Concrete thrust restraint branches-bends & PE intersections	D ✓✓✓✓	Dual water concrete restraint options described along with dual water PE intersection design requirements	7.9.5, 15.7
MRWA-W-105	Distribution main divide valve and bypass	D ✓✓✓ C ✓✓	Examples and requirements for larger main divide valve and bypass pipework described	8.2.3
MRWA-W-106	Installation of >=DN100 offtakes to existing mains	D ✓✓✓ C ✓✓✓✓	Tapping Under Pressure and Cut In connection requirements described	5.9, 5.11.2, 13.7, 15.5, 15.8, 22.1, 22.2
MRWA-W-107	Installation of DN40PE to DN63PE offtakes	D ✓✓✓ C ✓✓✓✓	Offtake fitting requirements for DN63PE, DN50PE and DN40PE offtakes from >=DN100 mains	5.9, 5.11.2, 13.7, 15.5, 15.8, 22.1, 22.2
MRWA-W-108	Dead end polyethylene reticulation	D ✓✓✓✓	Design requirements for dead end PE mains of DN63PE, DN50PE and DN40PE diameter	5.2.4, 5.10
MRWA-W-109	Polyethylene sub-main details	D ✓✓ C ✓✓✓✓	Fitting requirements for DN63PE, DN50PE and DN40PE mains (valves, hydrants, tapers and flushing boxes)	5.2.4, 5.10, 15.4
MRWA-W-110	Property service arrangements	D ✓✓✓✓ C ✓✓✓✓	Requirements for the location and installation of residential property services	5.11, 15.8
MRWA-W-111	Installation of DN25PE and DN32PE offtakes	D ✓✓ C ✓✓✓✓	Offtake fitting requirements for DN32PE and DN25PE offtakes from >=DN40 mains	5.11, 15.8

TABLE 000-C: 300 STANDARDS- FITTING ARRANGEMENTS & 400 STANDARD-STEEL PIPELINE JOINTING

STANDARD NO.	STANDARD NAME	RELEVANCE	TOPIC(S) COVERED	KEY CODE REFERENCES
MRWA-W-300A	Shut off block design	D ✓✓✓✓	Valve and hydrant placement process and requirements described and an example relevant to CWW is shown	8.1, 8.2, 8.8
MRWA-W-300B	Shut off block design examples	D ✓✓✓✓	Further valve and hydrant placement examples provided	8.1, 8.2, 8.8
MRWA-W-300	Valve and hydrant marking arrangements	C ✓✓✓✓	The location and type of valve and hydrant markings required in different situations is described	5.4.15, 8.2, 8.10, 8.11, 15.4, 15.5.5, 15.18
MRWA-W-301	Valve and hydrant marking details (CWW and SEW)	C ✓✓✓✓	CWW and SEW valve and hydrant marking size, colour, material and installation requirements are described	5.4.15, 8.2, 8.8, 8.10, 8.11, 15.4, 15.5.5, 15.18
MRWA-W-301B	Valve and hydrant marking details (YVW)	C ✓✓✓✓	YVW valve and hydrant marking size, colour, material and installation requirements are described	5.4.15, 8.2, 8.8, 8.10, 8.11, 15.4, 15.5.5, 15.18
MRWA-W-302	Valve surface arrangements	C ✓✓✓✓	Installation of trafficable and non-trafficable valve shrouds, spindles and covers are described	8.2, 8.10, 15.4, 15.5.4.1, 15.13, 22.2
MRWA-W-303	Hydrant and washout surface arrangements	C ✓✓✓✓	Installation of hydrant, all in one valve controlled hydrant and washout shrouds, spindles and covers are described	8.8, 8.10, 15.4, 15.13
MRWA-W-304	Hydrant and air valve arrangements	D ✓✓✓✓ C ✓✓✓	Guide to help decide: hydrant or air valve or both, where to locate the fittings(s) and what installation detail to be used	7.9, 12.5, 15.7

GENERAL NOTES ON THE 000 TABLES:

- D refers to the designer and C refers to the constructor. Items with more ticks indicate that this standard would likely be referred to more often.
- These tables provide guidance into what standards the MRWA believe to be most relevant to each party within the asset creation process.
- It is however, expected that all parties become familiar with all the requirements.

TABLE 000-B: 200 STANDARDS- PIPELINE STRUCTURAL REQUIREMENTS AND CROSSINGS

STANDARD NO.	STANDARD NAME	RELEVANCE	TOPIC(S) COVERED	KEY CODE REFERENCES
MRWA-W-200	Soil classification guidelines & AHBP	D ✓✓ C ✓✓	Estimation of AHBP to aid in the determination of concrete / timber thrust anchors	7.9.1, 13.11
MRWA-W-201	Trenchfill	D ✓✓ C ✓✓✓✓	Material and placement requirement of embedment and backfill in trenches	5.4.1, 7.4, 14, 16, 17, 19.3
MRWA-W-202	Trench dimensions and arrangements	D ✓✓ C ✓✓✓✓	Acceptable dimensions and main placement within the trenches. Cover, width & separation of mains described	5.4.2.3, 5.4.16, 5.6, 7.4, 14, 16, 17, 19.3
MRWA-W-203	Embedment	D ✓✓ C ✓✓✓✓	Suitable embedment systems and materials for different situations and pipe sizes	5.4.9.1, 7.4.7.5.1, 7.6, 16
MRWA-W-204	Thrust restraint area	D ✓✓✓✓	Calculation of thrust restraint area and some typical sizes	7.9, 15.7
MRWA-W-205A	Single main concrete restraints & PE main thrust restraint	D ✓✓ C ✓✓✓✓	Single pipeline concrete thrust restraint construction details	7.9, 12.5, 15.7
MRWA-W-205B	Dual main concrete restraints	D ✓✓ C ✓✓✓✓	Dual pipeline concrete thrust restraint construction details	7.9, 12.5, 15.7
MRWA-W-205C	Vertically cantilevered concrete restraints	D ✓✓ C ✓✓	Design and construction of cantilevered concrete thrust restraints for when inline & plain anchors are not suitable	7.9, 12.5, 15.7
MRWA-W-206	Timber-recycled plastic thrust restraints & valve support	C ✓✓✓✓	Set up and placement of timber - recycled plastic thrust restraints and valve installation details	7.9.2.4, 15.7
MRWA-W-207	Restrained joints	D ✓✓✓	Lengths of restrained main required to control different fitting arrangements	7.9.5, 15.7
MRWA-W-208	Sloping mains and trench drainage	D ✓✓ C ✓✓	Design and construction requirements for mains laid at > 5% grade. Drainage arrangements at trenchstops	7.10, 15.9, 15.10
MRWA-W-209	Trench bulkheads and trenchstops	C ✓✓✓✓	Construction details of bulkheads and trenchstops which are required for mains laid at >5% grade	7.10, 15.9, 15.10
MRWA-W-210	Underground crossings	D ✓✓ C ✓✓	Design and construction requirements for water mains cross major roads, waterways, drains, tram or rail	5.4.9, 5.4.10, 5.4.11, 15.15
MRWA-W-211	Bridge crossings	D ✓✓ C ✓✓	Design and construction requirements for water mains crossing bridges	5.4.9, 7.8
MRWA-W-212	Curves and deflections	D ✓✓✓✓ C ✓✓	Limitations and preferences for water mains which require deflection or are to be laid along a curve	5.4.14, 5.12.6, 15.2
MRWA-W-213	Trenchless construction	D ✓✓ C ✓✓	Design, geotechnical and construction requirements for water mains to be installed by trenchless techniques	2.10, 5.4.9.2, 5.5, 13.13, 15.12.3, 15.15, 17.3
MRWA-W-214	Water assets around retaining walls	D ✓✓✓ C ✓✓	Design and construction of water mains which are laid adjacent to or under retaining walls	5.4.13, 5.12.1, 5.12.4

STANDARD NO.	STANDARD NAME	RELEVANCE	TOPICS COVERED	KEY CODE REFERENCES
MRWA-W-304B	Hydrant and air valve examples	D ✓✓✓ C ✓✓	Examples provided to illustrate MRWA-W-304 in use	7.9, 12.5, 15.7
MRWA-W-305	Hydrant and air valve fitting details	C ✓✓✓✓	Installation details for different main connection, hydrant and air valve situations	7.9, 12.5, 15.7
MRWA-W-306A	Flange arrangements	C ✓✓✓✓	Installation, coating and wrapping requirements of flanges	4.3.6, 4.6.5, 7.9.2.3, 7.9.6.5, 12.8, 15.19, 15.20
MRWA-W-306B	Flange details	C ✓✓✓✓	Flange fastening and PE stub flange connection details	4.3.6, 4.6.5, 7.9.2.3, 7.9.6.5, 12.8, 15.5.5, 15.19, 15.20.2
MRWA-W-307	Scour arrangements	D ✓✓ C ✓✓	Different scour offtake and outlet arrangements and details provided	8.6, 15.14
MRWA-W-308	Swabbing and extension of new mains	D ✓✓✓✓ C ✓✓✓✓	Temporary and permanent end of main arrangements and swabbing requirements	5.10, 8.2, 8.7, 8.8.9, 8.9, 15.4, 18.1, 18.2, 18.3, 22.1
MRWA-W-400	Steel pipeline jointing	C ✓✓✓✓	Welding and protective coating details provided	4.6, 15.20

DESIGNED: R. JAGGER		DATE: 01/08/2016	
DRAWN: R. JAGGER		DATE: 01/08/2016	
CHECKED:	NAME	DATE	APPROVED: NAME DATE
<input checked="" type="checkbox"/>	B. VANOS	01/09/16	<input checked="" type="checkbox"/> R. CARRUTHERS 01/09/16
<input checked="" type="checkbox"/>	C. PAXMAN	01/09/16	<input checked="" type="checkbox"/> D. O'DONOVAN 01/09/16
<input checked="" type="checkbox"/>	J. TOMASI	01/09/16	<input checked="" type="checkbox"/> D. ERREY 01/09/16

MELBOURNE RETAIL WATER AGENCIES





MRWA WATER SUPPLY STANDARDS

NOT TO SCALE

WATER STANDARDS INDEX

MRWA-W-000

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